IN THE CLAIMS:

1. (Previously Presented) A method of determining a spacing between a template and a substrate spaced-apart from the template, defining a region therebetween having an index of refraction associated therewith, the method comprising:

impinging incident light upon the region by propagating the incident light along a path having a plurality of indices of refraction associated therewith, including the index of refraction, to form monitoring light; and

determining, from the monitoring light, a measured dimension of the region by ascertaining a wavenumber associated with the monitoring light that is a function of a wavelength of the monitoring light and the index of refraction.

2. (Previously Presented) The method of claim 1, further comprising determining an error signal, wherein the error signal corresponds to a difference between a desired dimension of the region and a measured dimension of the region.

3. (Previously Presented) The method of claim 1, further comprising determining an error signal, wherein the error signal corresponds to a difference between a desired dimension of the region and a measured dimension of the region; and sending the error signal to at least one actuator, wherein the at least one actuator is configured to adjust the spacing between the template and the substrate in response to the difference.

4-7. CANCELLED

8. (Previously Presented) The method of claim 1, further comprising making plurality of dimensional measurements of the region at differing locations and determining whether the template and the substrate are substantially parallel based on the plurality of dimensional measurements.

9. (Previously Presented) The method of claim 8, further comprising determining parallelism between the template and the substrate in response to the plurality of dimensional measurements.

10. (Previously Presented) The method of claim 8, further comprising dynamically adjusting an orientation between the template and the substrate to maintain parallelism therebetween.

11. (Previously Presented) The method of claim 1, further comprising making a plurality of dimensional measurements of the region at 3 or more non-colinear locations and determining whether the template and the substrate are substantially parallel based on the plurality of dimensional measurements.

12. (Previously Presented) The method of claim 11, further comprising determining an error signal, wherein the error signal corresponds to a relative movement between the template and the substrate required to bring the template

and the substrate into a substantially parallel configuration.

13. (Currently Amended) The method of claim 11, further comprising determining an error signal, wherein the error signal corresponds to a relative movement between the template and the substrate required to bring the template and the substrate into a substantially parallel configuration; and sending the error signal to at least one actuator, wherein the at least one actuator is configured to adjust the ~~relative position of~~ spacing between the template and the substrate to achieve a substantially parallel configuration.

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18. (Currently Amended) The method of claim 1, wherein determining further comprises monitoring variations in an intensity of the ~~monitored~~ monitoring light across various wavelengths.

19. (Previously Presented) A method of determining a spacing between a template and a substrate, the method comprising:

positioning the template in a spaced relationship with respect to the substrate defining a gap therebetween, with a material being disposed in the gap and having an index of refraction associated therewith;

applying incident light to the template and the substrate;

monitoring light reaching an interface of the template with the material, defining monitored light; and

determining a magnitude of the spacing between the template and the substrate based on the monitored light by obtaining data representative of optical properties of the monitored light, with the magnitude being a function of optical characteristics of the material and a wavelength of the monitored light.

20. (Previously Presented) The method of claim 19, further comprising determining an error signal, wherein the error signal corresponds to a difference between a desired distance between the template and the substrate and the spacing between the template and the substrate.

21. (Previously Presented) The method of claim 19, further comprising determining an error signal, wherein the error signal corresponds to a difference between a desired distance between the template and the substrate and the spacing between the template and the substrate; and sending the error signal to at least one actuator, wherein the at least one actuator is configured to adjust the spacing between the template and the substrate.

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26. (Previously Presented) The method of claim 19, further comprising determining the spacing between the template and the substrate at a plurality of locations and determining whether the template and the substrate are substantially parallel based on the plurality of spacing determinations.

27. (Previously Presented) The method of claim 26, further comprising determining an error signal, wherein the error signal corresponds to a relative movement between the template and the substrate required to bring the template and the substrate into a substantially parallel configuration.

28. (Currently Amended) The method of claim 26, further comprising determining an error signal, wherein the error signal corresponds to a relative movement between the template and the substrate required to bring the template and the substrate into a substantially parallel configuration; and sending the error signal to at least one actuator, wherein the at least one actuator is configured to adjust the ~~relative position of~~ spacing between the template and the substrate to achieve a substantially parallel configuration.

29. (Previously Presented) The method of claim 19, further comprising determining the spacing between the template and the substrate at 3 or more non-colinear locations and determining whether the template and the substrate are substantially parallel based on the 3 or more spacing determinations.

30. (Previously Presented) The method of claim 29, further comprising determining an error signal, wherein the error signal corresponds to a relative movement between the template and the substrate required to bring the template and the substrate into a substantially parallel configuration.

31. (Currently Amended) The method of claim 29, further comprising determining an error signal, wherein the error signal corresponds to a relative movement between the template and the substrate required to bring the template and the substrate into a substantially parallel configuration; and sending the error signal to at least one actuator, wherein the at least one actuator is configured to adjust the ~~relative position of~~ spacing between the template and the substrate to achieve a substantially parallel configuration.

32-35. CANCELLED

36. (Previously Presented) The method of claim 19, wherein monitoring light reflected from the template and the substrate further comprises monitoring variations in intensity of the monitored light across various wavelengths.

37-245. CANCELLED

246. (Previously Presented) A method of determining a spacing between a template and a substrate, with a material being disposed between the template and the substrate, the method comprising:

positioning the template in a spaced relationship with respect to the substrate defining a gap therebetween, with said material being disposed in said gap and having an index of refraction associated therewith;

applying light to the template and the substrate, wherein the light comprises a plurality of wavelengths;

monitoring light reflected from a surface of the template and the substrate defining monitored light; and

determining a magnitude of the spacing between the template and the substrate based on the monitored light by obtaining data representative of an intensity of at least some of the wavelengths associated with the monitored light and determining a wavenumber associated therewith, wherein the wavenumber is a function of the index of refraction and the wavelength of the monitored light, with said magnitude being a function of the wavenumber.

247. (Previously Presented) The method of claim 246, further comprising determining an error signal, wherein the error signal corresponds to the difference between a desired distance between the template and the substrate and the magnitude.

248. (Previously Presented) The method of claim 246, further comprising determining an error signal, wherein the error signal corresponds to the difference between a desired distance between the template and the substrate and the magnitude; and sending the error signal to at least one actuator, wherein the at least one actuator is configured to adjust the spacing between the surface of the template and the substrate.

249. (Previously Presented) The method of claim 246, wherein the template comprises a plurality of recesses defined on a surface thereof.

250. (Previously Presented) The method of claim 246, wherein the template comprises a plurality of recesses

defined on a surface thereof, wherein the recesses are of a known depth.

251. (Previously Presented) The method of claim 246, wherein the template comprises a plurality of recesses defined on a surface thereof and wherein applying light to the template and the substrate comprises passing the light through one or more of the recesses.

252. (Previously Presented) The method of claim 246, wherein the template comprises a plurality of recesses defined on a surface thereof and wherein a depth of each recess is at least ¼ of a mean wavelength of the light applied to the template and the substrate.

253. (Previously Presented) The method of claim 246, further comprising determining the distance between the template and the substrate at a plurality of locations and determining whether the template and the substrate are substantially parallel based on the plurality of distance determinations.

254. (Previously Presented) The method of claim 253, further comprising determining an error signal, wherein the error signal corresponds to a relative movement between the template and the substrate required to bring the template and the substrate in to a substantially parallel configuration.

255. (Currently Amended) The method of claim 253, further comprising determining an error signal, wherein the error signal corresponds to a relative movement between the

template and the substrate required to bring the template and the substrate in to a substantially parallel configuration; and sending the error signal to at least one actuator, wherein the at least one actuator is configured to adjust the ~~relative position~~ spacing between the template and the substrate to achieve a substantially parallel configuration.

256. (Previously Presented) The method of claim 246, wherein the template is a patterned template.

257. (Previously Presented) The method as recited in claim 1, wherein the incident light comprises a plurality of wavelengths.

258. (Previously Presented) The method as recited in claim 257, wherein determining further includes obtaining data representative of an intensity of at least some of the wavelengths associated with the monitoring light.

259. (Previously Presented) The method as recited in claim 1, wherein the monitoring light comprises reflected light.

260. (Previously Presented) The method as recited in claim 1, wherein the region comprises a material, with the material having said index of refraction.

261. (Previously Presented) The method as recited in claim 1, wherein the region comprises a material, with the material substantially filling the region.

262. (Previously Presented) The method as recited in claim 1, wherein determining further includes ascertaining the dimension of the region be a function of an intensity of the monitoring light.

263. (Previously Presented) The method as recited in claim 1, wherein the template is a patterned template.

264. (Previously Presented) The method as recited in claim 1, wherein the template is a substantially planar template.

265. (Previously Presented) The method as recited in claim 1, wherein the optical characteristics include an intensity of the monitoring light.

266. (Previously Presented) The method as recited in claim 19, wherein the incident light comprises a plurality of wavelengths.

267. (Previously Presented) The method as recited in claim 266, wherein determining the magnitude further includes obtaining data representative of an intensity of at least some of the wavelengths associated with the monitored light.

268. (Previously Presented) The method as recited in claim 19, wherein the monitored light comprises reflected light.

269. (Previously Presented) The method as recited in claim 19, wherein the index of refraction and the

wavelength of the monitored light define a wavenumber, with the magnitude further being a function of the optical properties of the monitored light corresponding to the wavenumber.

270. (Previously Presented) The method as recited in claim 19, wherein the optical characteristics of the material include the index of refraction.

271. (Previously Presented) The method as recited in claim 19, wherein the material substantially fills the gap.

272. (Previously Presented) The method as recited in claim 19, wherein the template is a patterned template.

273. (Previously Presented) The method as recited in claim 19, wherein the template is a substantially planar template.

274. (Previously Presented) The method as recited in claim 19, wherein the optical properties of the monitored light include an intensity of the monitored light.